FAA
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JULY—AUGUST 1981

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FAA GENERAL AVIATION NEWS

DEPARTMENT OF TRANSPORTATION/ FEDERAL AVIATION ADMINISTRATION

JULY–AUGUST 1981
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BRIEFS

GLIDER GLITCH. Schweizer glider pilots are cautioned about a possibly defective utility box latch in the Model SGS 1-26B. The box, used for storage, is located under the cockpit console forward of the control stick. Some latches have permitted the vertically closing door to open in flight and restrict forward movement of the elevator control. FAA recommends that owners of this glider model have a certified mechanic inspect the latch and replace if defective.

SUN POWER. The pioneer of human-powered flight, Dr. Paul MacReady, has added another milestone to his aviation career. His Solar Challenger, a 210-pound solar-powered airplane piloted by Stephen Ptacek, flew from Paris, France 165 miles to the White Cliffs of Dover on July 7, 1981. Cruising at altitudes up to 11,000 feet across the English Channel, the Challenger averaged 30 mph and made the trip in 5½ hours. No storage batteries are used, as the 16,000 photovoltaic cells in its 47-foot wing convert solar energy directly to electricity required to turn the prop.

FILTER EXCHANGE. Some Champion spin-on oil filters have been found to have bad threads which could prevent the filter from being tightened properly and cause leaks. Champion requests that all oil filters with the date code 1E8 be returned to a dealer and exchanged.

WARY OF THE WIND. Accidents following attempts to take off or land downwind continue to occur on an average of 80 per year, usually at uncontrolled airports where runway direction is determined by the pilot alone. UNICOM's advice should be sought when available. If not, check the wind indicators on the field and note any prevailing traffic. Use the whole runway—it may slope.

BEECH, CESSNA RECENT ADs. AD 81-12-01 - Decompression of Beech King Air aircraft has been caused by failure of cast acrylic windows in cockpit, cabin, or baggage area. Must be inspected and replaced where indicated with stretched acrylic windows. AD 81-11-05 - Cessna 402s and 414s with more than 500 hours time in service must have engine mount beams inspected (and every 200 hours thereafter) to insure structural integrity (no cracks). Appropriate maintenance personnel should be consulted immediately to arrange for inspection and servicing of these aircraft.

DUE CARE

A Judicial View of Pilot Responsibility

". . . Our experience with aircraft accident litigation suggests that poor judgement is shown not only by persons prone to carelessness, but also by very responsible and ordinarily careful individuals who have plenty of time to select proper alternatives. How do they arrive at such poor decisions? I think they allow certain emotional needs—such as a need to feel like a superior and accomplished person, or to attack difficult challenges—to assume a false priority over the safe termination of their flight. If all pilots could only witness the years of legal proceedings, the expenses, agonies, and inconveniences suffered during drawn-out aviation accident litigation, the need to keep one's self and family out of the courtroom would become more of an overriding priority."

—Michael J. Pangia, Chief, Litigation Division, FAA

The flight was made in a Grumman *Goose*, an amphibious turboprop twin with good range and excellent terrain flexibility. The pilot and owner, a Seattle cannery operator, had arranged to take a party of half a dozen friends and business acquaintances up to the remote lake country of northern British Columbia for three days of fishing during the last week of September. On the morning of his flight their base airport, Smithers, BC, was reporting overcast and fog, which was expected to burn off before midday, with VFR conditions forecast generally over the region in the afternoon. The flight departed Seattle at 7:30 a.m. local time, and after a refueling stop en route at Prince George arrived over Smithers at 12:15 p.m.

Smithers is a mining town located in the narrow Bulkly River Valley, with high mountain ranges on either side. The single runway is aligned with the valley and has an NDB instrument approach.

The pilot observed that the fog still had not dissipated, and that weather minimums were marginal for the approach.

Discussing the situation with his passengers, the pilot suggested that they might continue directly to one of the fishing lakes where the weather might be good enough for a landing. Or they could fly back to Prince George and wait it out. The passengers were all eager to start fishing, and in favor of going on to the lakes. They settled on Lake Takla, about 65 miles northeast of Smithers.

The seaplane base at Takla Landing was also obscured by fog, but the pilot observed a broad expanse of the lake to the south that was open and free of visible obstructions. He circled over the area at an altitude of approximately 2,000 feet above the water and then spiraled down to a landing. The lake was calm and the landing normal, but shortly after touchdown, the aircraft struck a solid object that tore a hole through the hull, allowing water to gush into the cabin.

The pilot, who was not immediately aware of the damage, heard an outcry in the cabin and turned to see two of his passengers exiting the airplane through the rear door. He immediately ordered everyone in the cabin to don a life jacket, and to remain seated until instructed otherwise—reassuring them that the aircraft was not about to sink. Maintaining a high speed taxi, he was able to reach the nearest shore, less than a quarter of a mile away, and to beach the amphibian on the sand.

The pilot then donned a life jacket himself and swam out to assist the two passengers in the water. One was located in good condition, despite the 43-degree temperature of the huge lake, and he reached the shore safely with the aid of his life preserver. The body of the second missing passenger, who had jumped out of the airplane without a life jacket, was not found until many hours later, following a search by an underwater rescue team summoned by radio.

After cooperating fully with investigating authorities, the pilot undertook the sad obligation of returning the victim's body to Seattle and participating in the funeral arrangements. He felt very bad about the loss of a passenger's life on board his aircraft—but he felt no personal responsibility, as he believed he had done everything within his power to prevent the tragedy.

Six months later he found himself a defendant in a legal action taken on behalf of the deceased passenger's family, charging him with gross negligence in connection with the accident and seeking $1.5 million in compensation. The prolonged trial, which was held in Vancouver, BC, was emotionally draining for the pilot, as it included damaging testimony from all four surviving passengers, some of whom had been his lifelong friends. Financially, it brought him to the brink of bankruptcy, in view of the time lost from work, the worry and strain, the legal costs, and damages awarded.

Discussing possible inflight problems and emergency procedures beforehand with non-airman passengers is part of thorough preflighting.

In the pilot's defense his attorney maintained that the deceased had brought about his own death by leaping out of the moving aircraft of his own will and neglecting to take a life preserver, which was hanging in plain view of his seat. It was further argued that upon being apprised of conditions in the cabin, the pilot had acted appropriately in beaching the aircraft promptly, and that any alternate course of action might have led to the sinking of the stricken aircraft and the loss of additional lives. The pilot's subsequent effort to aid the victims in the water, at considerable risk to his own life, was also stressed.

The judge agreed that failure to take a life preserver before leaping into the lake was the immediate cause of the passenger's death. However, in the judge's opinion, such behavior could not be unexpected under these circumstances, and therefore the pilot was ultimately responsible because he had neglected to brief his passengers *prior* to departure on proper actions during a landing emergency. Also noted as contributing to the non-jury verdict of negligence was the pilot's decision to land upon the lake under weather conditions which made it difficult to scan the surface at a low altitude. The fact that the passengers had urged the landing upon the lake (rather than return to Prince George) was insignificant insofar as the pilot was the only individual involved who had been trained to assess the circumstances correctly.

Similar court decisions throughout the United States have shown that the courts believe general aviation, while less stringently regulated than air carriers, is sufficiently regulated to assure that pilots are trained and tested properly. They are therefore expected to act appropriately for the safety of their passengers at all times, and may be considered responsible for any harm resulting from negligence. The fact that a general aviation pilot's responsibilities are not spelled out in such a detailed manner as they are for his air carrier counterpart does not lessen his responsibilities.

If, for example, a pilot does not bother to give his passengers a preflight briefing on emergency procedures, could he defend himself successfully against any subsequent charges of negligence by claiming that the Federal Air Regulations do not specify what is to be said to passengers beforehand? Not likely! The law requires adherence not only to regulations but also to standards of reasonable care. Such standards are often left strictly to a judge or jury to determine.

The regulations do not specify what type of weather briefing a pilot should obtain before flying, but if he fails to utilize the best sources available to him (FSS or National Weather Service briefers, normally) he is ignoring the standard of reasonable or "due" care—as well as the intent of the regulation. The statement contained in FAR 91.5, to the effect that before a flight, the pilot "shall familiarize himself with all available information concerning that flight," was construed in this case to include such information as to whether or not any of his passengers had flown in a small aircraft before or had need of briefing on emergency procedures, such as ditching. In courtroom procedure, the standard of due care may be more important then a strictly legal interpretation of a rule.

Similarly if a pilot allows his judgement concerning an inflight decision, such as selection of a landing site, to be swayed by popular opinion, he is nonetheless responsible for any harmful consequences of this decision if it proves unwise. The pilot in command has direct responsibility and is the final authority for the operation of his aircraft—not the passengers.

The details of a preflight examination of the aircraft are not spelled out in the rules either, but each manufacturer provides a step-by-step checklist, and following it to the letter is accepted good practice. The pilot who disregards a single step—even though he attends scrupulously to dozens of others—may find himself accused of neglect if something goes wrong on the flight. Failing to visually check the fuel levels in the aircraft tanks is a common example. If that omission leads to a forced landing, due to fuel exhaustion, with injuries or damages, it is not likely that a statement such as "I had the tanks topped the night before" will stand up in court. Flight safety is made up of consistent attention to innumerable small details, as well as performance skills and good judgement.

One area in which there is frequent misunderstanding as to who is

FLIGHT PLANNING RULES

In addition to the brief specifics given in FAR 91.5, good flight planning is generally held—by judges and juries as well as by Federal investigators—to include the following:

- Recent experience or checkout in the type of aircraft
- Selecting alternate airports (VFR as well as IFR) and routes
- Review of minimum en route altitudes
- Location of emergency landing areas en route
- Knowledge of aircraft performance data for expected temperature ranges and altitudes
- Schedule allowances for delays
- Review of navigation facilities en route
- Airworthiness of aircaft
- Healthy and well-rested physical condition of pilot

responsible for what is the relationship between the pilot and any air traffic control facility he may be in contact with. Many air traffic control services are considered essentially *advisory* rather than authoritative, precisely because final authority for any flight actions rests with the pilot in command. The pilot always has the option to accept or refuse a clearance; and his acceptance amounts to an assertion that he and his aircraft are capable of carrying out the procedure in absolute safety.

It is true that a pilot may be called upon subsequently to justify any flight action taken that contradicted an ATC clearance or advisory, but it is equally true that following such a clearance or advisory does not relieve the pilot of any of his responsibilities for operating his aircraft safely and using his own eyes and intelligence to avoid collisions or loss of control—even if the controller involved does not fully carry out his assigned responsibilities.

A case in point concerned during an IFR flight in a twin *Commanche* from Jacksonville, FL to Ashland, AL (southeast of Birmingham). The pilot was experienced, instrument-rated and fully qualified for the flight. His flight case contained low altitude instrument charts and approach plates for the airports along his intended route.

Flying in and out of IFR conditions, the pilot kept himself updated frequently concerning his en route and destination weather. When he arrived in the Ashland area at approximately 10:30 a.m. the visibility was reported as one mile in rain showers. He had the runway in sight as he circled the field in preparation for a VFR approach (Ashland does not have an instument approach.), but apparently the visibility worsened because the pilot elected not to land there.

Instead he contacted Birmingham Approach Control again and requested an IFR clearance to Talladega (an airport with a VOR instrument approach about 20 miles northwest of Ashland). Birmingham issued a "cruise clearance" at 4,000 feet for the approach to Talladega. (A cruise clearance, as it was explained to the pilot, constitutes approval to descend at his discretion for the approach to his destination airport.) At the conclusion of the explanation, the pilot reported he was leaving 4,000 feet. At 11:00 a.m. he contacted the fixed base operator at Talladega and asked for local weather information. He did not acknowledge the operator's reply.

Alabama is a relatively flat state, but it does have a low mountain ridge that lay between the *Commanche's* last reported position, about nine miles north of Ashland, and Talladega Airport. The highest point in the state (3,040 feet) was the tip of a tower on top of Cheaha Mountain, at the crest of this ridge. The aircraft crashed into Cheaha Mountain at approximately 11:01 a.m., killing the pilot.

In the subsequent litigation undertaken in behalf of the pilot's widow and family against the Air Traffic Control Service of FAA, it was established that in the final weather briefing given the pilot at 10:45 a.m., the phrase "ridges obscured in all quadrants" had been omitted, and this was alleged to be negligence. However, this phrase had been contained in two earlier terminal weather reports given the pilot that morning, and there was nothing in the last report to suggest an improvement in the weather affecting the visibility over the ridges. Hence, the U.S. District Court hearing the case held this ommission was negligence but did not cause the accident.

On the other hand, the court did agree that ATC issuance of a "cruise 4,000" clearance to the *Commache* pilot without determining the airplane's position and under highly adverse weather conditions, over terrain designated as mountainous, was in fact causal negligence on the part of the United States.

However, the court held that knowledge of the terrain over which he was flying and the potenital danger it presented should also have been known to the pilot, and ". . . thus the ATC had no duty to warn of such a hazard." The pilot's failure to carry on board a sectional chart for this area was not in itself considered negligence, but his decision to initiate a descent in conditions of restricted visibility when he was unfamilar with the terrain or his current position did amount to negligence.

In accordance with the laws of the state of Alabama, no damages were awarded.

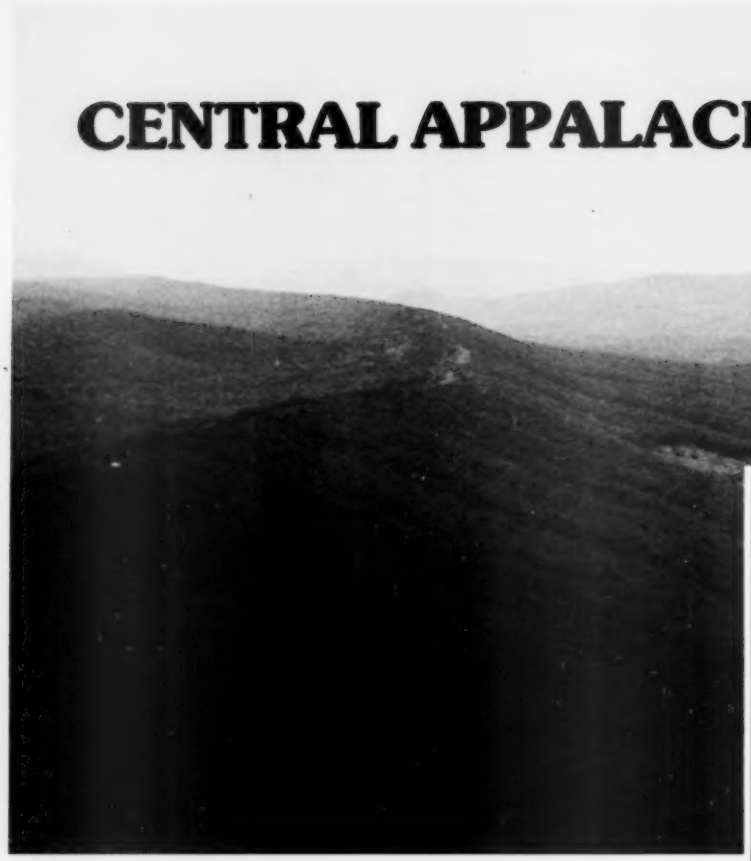
The FARs do not specify which navigation publications are required for any particular flight—and many pilots who rely consistently on IFR flight plans do not carry sectional charts. But failure to familiarize oneself with the terrain features underlying a flight path has been held as a violation of FAA regulations and the negligent cause of numerous tragic accidents.

Litigation is an unfortunate consequence of many unfortunate aviation accidents. And because nearly 90% of all general aviation accidents are ascribed to pilot error—or bad judgement—the pilots involved may suffer not only bodily harm but financial injury as well. The insurance liability coverage—if any—of any aircraft you rent or borrow is something to look into. However, even with liability insurance or a favorable judgement, the grief of a lawsuit can be consuming.

The best insurance of all is a safe pilot. *Do care.* ■

". . . The law requires adherence not only to regulations but also to standards of reasonable or 'due' care. Such standards are often left strictly to a judge or jury to determine."

CENTRAL APPALACHIAN FLYING



Staying Out Of Trouble In Boone Country

Seen from a high-flying jet on a clear day—which would be unlikely in this area—the central Appalachians might look like a gigantic set of furrows clawed into some 500 miles of upraised land extending from southwestern Virginia to northeastern Pennsylvania. The mountain ridges are tightly pressed together except in the very center where the "Great Valley" of the Shenandoah lies. At altitude one can make out several distinct subranges: the Allegheny Mountains in West Virginia, the Blue Ridge Mountains of Virginia and Maryland, and the Blue Mountains of Pennsylvania. The mountains reach their greatest heights in southern Virginia (Rogers Peak, near Bristol, 5,790′). The Alleghenies and the Blue Ridges have some peaks over 4,000′, and the Blue Mountains crest at a modest 3,213′.

These would not appear to be forbidding heights for travelers, ancient or modern. But from the earliest recorded times the Central Appalachians, with their peculiar geography and sparse population, have created a surprisingly stubborn barrier to westward movement from the Atlantic seaboard settlements. To be sure there are several rivers which traverse the Appalachian ridges, but these waterways did not create commonly used east/west passages for pioneers with wagons or even for Indians on foot. In fact you will look in vain for the word "pass" on the charts of this region. The nearest approximation is the native word "gap."

A gap is a fairly narrow cleft through the crest of a ridge, cut by an existing or prehistoric stream. It is not the same thing as a continuous valley or stream bed across a mountain range. Prominent gaps in the central Appalachians were created by the Potomac River in Maryland, for example; the Swift River in Virginia; the New River in West Virginia, and the Cumberland River at the eastern tip of Kentucky. But for many centuries only the Cumberland Gap (which the river had deserted) was used to any extent by human beings, originally by the Indians traveling from the Great (central) Valley to the Cherokee homeland in Tennessee. This "Wilderness Trail" later became a legendary path west for American colonists seeking the reputedly rich bluegrass lands of Kentucky and the great open plains of the Mississippi—long before Oregon or Santa Fe were heard of on the Atlantic Seaboard.

The legends of the trail were full of incredible hardships suffered by greenhorn travelers who lost their way in the fog and low-lying clouds, and perished from cold or hunger; or who were attacked by savage bears and hostile Indians. Those like Daniel Boone who made their way into Kentucky grasslands were a hardy breed of survivors.

Time and modern engineering have tamed these mountains considerably. The Indians are gone and the wild bears are pretty scarce now, and the land is interlaced with highways, railroad tracks and more recently with electronic airways. In the early days of the airmail service, little more than half a century ago, these mountains were known as the "graveyard of pilots." Efforts to overfly the area on a regular daily basis, rain or shine, day or night, with little instrumentation and less radio guidance led to a

heavy accident and death toll.

Even in contemporary times the central Appalachians, for all their lack of impressive heights, account for about 30 flying accidents per year. At least two out of three of these accidents are fatal, with over 50 persons seriously or fatally injured. The great majority of these accidents were flights which were conducted for personal business or pleasure, and weather—especially fog—is usually a factor. The common causal thread that runs through most of these accidents is a failure to exercise the extra degree of caution due to mountainous terrain.

A recent example involved a Cessna 172 pilot from Gasport, N.Y. (near Buffalo), who together with a companion was returning from a holiday trip to Daytona Beach, Fla. Just before beginning the return trip the young pilot, who had logged 240 hours of flight time, experienced a generator problem and delayed his departure one day in order to have maintenance work done on the generator. He took off the following morning at 8:00 a.m., after getting a weather briefing from Orlando FSS by telephone. No flight plan was filed. VFR weather was expected to prevail over his intended route except for the possibility of some frontal activity near Buffalo. The flight proceeded routinely, with a fueling and lunch stop at Rockingham, N.C., at noon. Continuing on over Virginia the pilot observed his ammeter malfunction warning light on as he approached the Gordonsville VOR. The ammeter indicated a persistent discharge, even with all radios off. The pilot turned off the master switch and prepared to make a precautionary landing at the nearest airport.

At this point he was flying at 3,000 feet MSL over a broken cloud layer. He descended through a hole in the clouds and spotted a small private sod strip close by. He landed on the 2,000 foot runway without incident and examined the generator for signs of loose connections or burned-out parts. There were no such obvious indications, so he checked his sectional chart and selected a highway that he could follow to the Gordonsville Airport, where he hoped to obtain assistance from a mechanic. He landed at Gordonsville at 4:30 p.m.

Gordonsville, however, did not have the parts or facilities to overhaul his generator. He was advised to have his battery, which was now in a low state of charge, charged up overnight so that he could continue safely in the morning to the nearest airport where service could be provided. The pilot decided to continue that same afternoon. He felt certain there was ample daylight for him to cover the remaining 90 air miles to Martinsburg before dusk, even though to spare his battery he would have to fly an indirect course by following roads instead of navigating on the VORs.

He took off from Gordonsville at 4:45 p.m. and flew north over the highway. Even so within half an hour his battery was completely dead. He was still flying at 2,000 feet MSL, but the terrain had been rising imperceptibly and he was barely 500 feet above the surface, with little room to climb without going into clouds. He felt extremely relieved to catch a glimpse—through a gap in the mountain range—of the Shenandoah Valley town of Front Royal, nestled in a bend of the river. He entered the gap with the intention of landing at Front Royal.

However, just as he entered the gap from the east a large cloud moved in from behind the ridge and all at once his visibility disappeared He established a climbing turn at full power, but at 75 mph indicated his climb rate was almost negligible and within a few seconds he had a rough-running engine. He applied carburetor heat and leveled the wings until the engine smoothed out, then initiated another climbing turn. Intermittently he caught sight of a heavily wooded terrain around him, and soon realized that he could not outclimb the terrain. Fortunately he managed to impact the trees at minimum speed, absorbing most of the crash force with the wings. The pilot and his passenger exited the airplane immediately, with only minor injuries, and walked down the mountain to report the accident to the Sheriff's office.

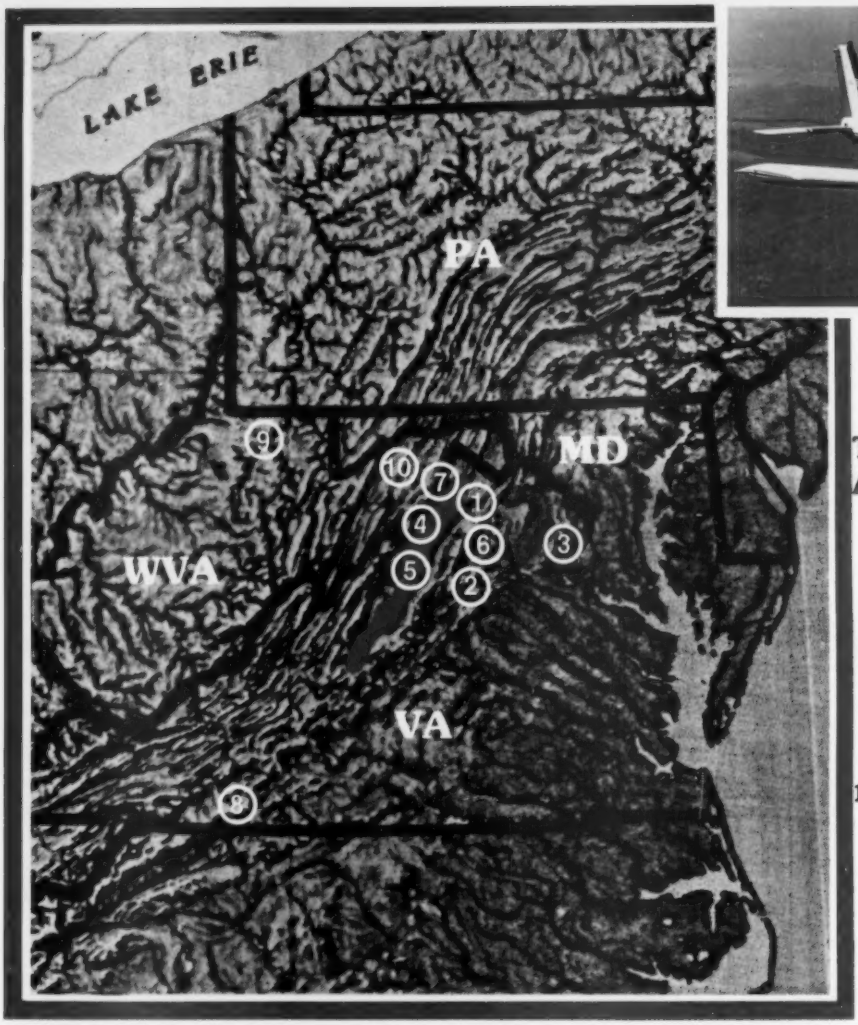
It appears that this young pilot took many unnecessary risks, in continuing an already lengthy flight with a defective generator and weak battery, into marginal weather over unfamiliar country, and mismanaging his climb speed—and he was extremely lucky to have escaped without serious injury. Over level landscape he might have got away with it, but the rise in terrain along the Appalachian slope was deceptive and the apparent easy passage through the gap was an obvious potential weather trap, given the low ceilings prevailing.

What the pilot may have encountered in Chester Gap was the leading edge of an orographic uplift fog, a common occurrence in the Appalachians. Orographic simply means affected by mountains, and the term refers to a movement of air up a windward slope with resultant cooling of the air mass. Under some atmospheric conditions (prevalent in all seasons except winter) the temperature of the rising air, as it nears the ridge, may fall to that of the existing dewpoint, whereupon condensation of moisture will take place. Unwary pilots of aircraft approaching an Appalachian ridge or gap from the leeward side at a low altitude may be caught totally by surprise when they enter the gap and find it contains pockets of dense fog which severely restricts maneuvering room. In these circumstances you cannot always count on luck to save you. This same Chester Gap proved a fatal nemesis for another relatively inexperienced pilot who lived not far from the area.

The flight in this case originated at Manassas, VA, only about 60 miles east of Chester Gap. The pilot, 47, was recently certificated, had his own light trainer, and was considered a good, careful pilot by other airmen in the area. However, he had logged less than 100 hours, about one-third of it dual, and had only 1.5 hours of solo time in the *Cherokee* Six he had rented for this flight. He had 2.7 hours of simulated dual instrument time.

He departed Manassas at approximately 5:30 p.m. on July 2, 1980, for a short 40-minute flight to Sky Bryce Airport on the western rim of Virginia's Shenandoah Valley. Accompanied by two companions, the pilot had supper with

Chester Gap, VA, an unassuming cleft between Shenandoah Valley and Virginia Piedmont. The road through the gap is easy to follow in good weather, but with low ceilings can become obscured.



The Central Appalachian Region:

1. Front Royal, VA
2. Gordonsville, VA
3. Manassas, VA
4. Sky Bryce, VA
5. Shenandoah Valley, VA
6. Chester Gap, VA
7. Star Tannery, VA
8. Rogers Peak, VA
9. Morgantown, WVA
10. Martinsburg, WVA

a mutual friend at Sky Bryce and set out on the return trip shortly after 9:00 p.m., according to the airport manager. Sundown on this mid-summer day at this latitude was at 8:30 p.m., but the pilot expected to have ample light at altitude to cross over the several ranges of the Blue Ridge Mountains en route. He did not get a weather briefing, but witnesses at Sky Bryce said VFR conditions prevailed, with a high overcast and some haze. There was no moon.

About 10:00 p.m. the airport manager at Front Royal, VA, 25 miles northeast of Sky Bryce, observed a low-[illegible]rcraft approaching from the direction [illegible]r Gap—flying *west*. The airplane cir[illegible]the airport and then headed toward Harmony Hollow, another mountain gap a few miles north-east. Again he saw the plane circling, and then abruptly it departed the area on a heading of about 250 degrees magnetic—in the general direction of Sky Bryce. It appeared to the manager that the aircraft might be lost (the landing lights were turned on) and he attempted to make contact on the UNICOM radio frequency, but without success. He said the weather ". . . was very hazy, 2–3 miles visibility." He could not see a ridge three miles away but could see some stars overhead.

The next report came from a witness who lived in the small community of Star Tannery on the western rim of the Shenandoah Valley about 22 miles northeast of Sky Bryce. Between 10:30 and 10:45 p.m. this witness observed an aircraft with landing lights on traveling at a height of no more than 200 feet above the ground through the adjacent valley. He watched the aircraft approach from the southwest and then bank toward the northwest. The engine was running smoothly but abruptly revved up. Shortly thereafter the witness heard a crunching sound and saw a red glow behind a ridge. He called local authorities to report what he had seen, but they were unable to ascertain that an accident had taken place. (Sky Bryce Airport had no missing aircraft which had departed in a northerly direction.) The witness stated that it was a dark and hazy night and no stars were visible overhead. Later that night thunderstorms moved in.

Since no flight plan had been filed, FAA's air traffic service was also unaware of any missing aircraft in the area, and no search efforts were conducted until two days later, when the fixed base operator at Manassas who had rented the *Cherokee* listed it overdue. Even then it was not an easy matter to associate the witness' report with the return flight of the *Cherokee* from Sky Bryce. The pilot was known to have set out on a reciprocal of the course he had followed when leaving Manassas, which would take him on a easterly heading of about 95°. Apparently on his return the pilot had crossed over the Blue Ridge Mountains at the midpoint of Shenandoah Park and then for some reason turned to a north*westerly* heading which caused him to cross over the same mountain range again in the opposite direction at Chester Gap. Presumably after getting his bearings at Front Royal Airport he turned east toward Manassas but encountered some problems in the gap known as Harmony Hollow and was unable to continue (perhaps disorientation). It would seem that he then gave up the idea of reaching Manassas that

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night and took up the 250° heading in order to return to Sky Bryce.

Evidence indicated that the pilot actually came within a mile or two of returning to Sky Bryce Airport, but for some reason (perhaps he was boxed in by a low ceiling) he did not cross the last remaining ridge but turned northeasterly and followed the valley for about 20 miles before attempting to cross the ridge near Star Tannery, where he crashed. The burned wreckage, located later by CAP search planes, was at the top of a densely wooded ridge. There were no survivors.

Examination of the wreckage indicated the engine was functioning normally at the time of impact and that the aircraft was in a shallow left turn. A toxicological report on the pilot showed no evidence of any pre-existing condition or disease that would have affected his ability to fly the airplane. His dinner host at Sky Bryce confirmed that he had drunk no alcohol prior to his departure.

Consideration of all the facts—plus the pilot's failure to communicate—suggests that insufficient visibility became a problem once he passed over the Shenandoah Valley. Once daylight has faded, landmarks are difficult to establish in these mountains, especially with low ceilings, haze, and possibly fog creeping up the mountain slopes. The pilot may have flown toward Linden VOR (about five miles southeast of Front Royal) in order to establish his position. He may have encountered heavy fog in Harmony Hollow and become confused or disoriented and taken a wrong heading for Manassas. Or he may have lost sight of Front Royal by this time and concluded that his only safety lay in heading back to Sky Bryce. Given the deterioration of the weather on the western slopes of the valley it was only a matter of time before he ran out of flying space. If he had started an hour or two earlier . . .

In Maryland and Pennsylvania the succession of mountain ridges is less frequent, with relatively low elevations. Nevertheless, the Appalachians in this region also constitute a wind barrier that is responsible for abrupt and often unpredictable changes in *local* weather conditions. Never assume that a terminal weather report will describe conditions at your destination airport unless the weather station is located on or very close to your field. Verify by direct contact whenever possible.

Every year many accidents occur as a result of pilots attempting to maintain VFR conditions under a cloud cover by following shallow valleys or gaps which breed their own weather, or turn out to be "hollers" with no exit.

Often by the time the troubled pilot seeks help from ATC he is blocked (by the close terrain) from radio communication. Good flight planning would include the identification of VOR remote control outlets (RCOs) to which the pilot may transmit while listening on the VOR frequency. VOR remote receivers are indicated by an "R" following the frequency channel printed just above the VOR box. Depending on the terrain and altitude, a pilot may have a better chance of contacting ATC in this manner than by transmitting on the emergency frequency. (If you are picking up the VOR signal on your NAV set with no trouble, there is a good chance, your transmission to the remote facility will be heard.) The VOR remote receiver is usually positioned on a ridge top, which might lie within your line of sight when all other facilities are blocked out.

Veteran Appalachian airmen stress the importance of being sharp in your VOR navigation technique. Obscuration of the horizon by fog or haze—or in some cases, nightfall—often turn a VFR flight into something more like an IFR operation. In the absence of familiar reference points inexperienced pilots will make gross errors in their VOR headings, sometimes taking up reciprocals of intended courses, with fatal results. Minimum safe altitudes may not be very high, but they should not be guessed at.

Many transitting pilots en route across the central Appalachians become impatient with weather forecasts which by their nature must be imprecise. An area forecast covering several hundred square miles over a period of 18 hours may call for generally fairly passable VFR weather but occasional thunderstorms possible. It can be tempting to believe that the thunderstorms, if indeed they do occur, will take place far away from your route, especially if you have good visibility when you are ready to take off. It is less than an hour's flight across the ridges at many points—say from Morgantown to Martinsburg, WVA—and both these airports have weather stations. The problem is, you can never be certain what is going on, weatherwise, between the points. Pilot reports would help—but these are filed very infrequently in this area, and they would have to be quite recent to do you any good. Airports are few and far between—even if you were willing to go to the time and expense of calling their managers by phone. If you are not qualified to fly over the weather, any mention at all of low ceilings in the forecast should ground you—as the possibility of thunderstorms will ground careful IFR pilots of light aircraft.

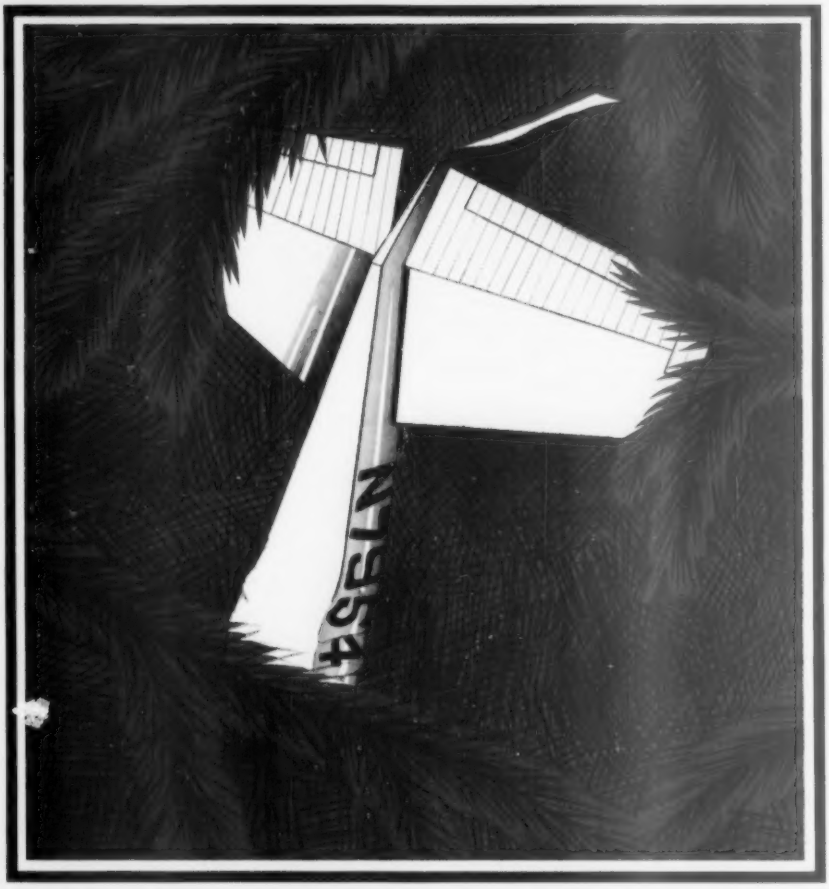
The changeability of weather in the Appalachians has its good side as well as its bad. In general, weather systems do not stay locked up for days on end, or even weeks, as is some times the case in the high mountains of the west. Usually a few hours of patience will reward you with clear skies and broad horizons, as well as a chance to really enjoy the country-side you are flying over. Why do it the hard way?

Of course, Daniel Boone and his kinfolk did. *But they paid the price.*

Remote Communications outlet at Grantsville, MD atop 3,000-foot mountain east of Morgantown WV. Pilot flying in valley can transmit to Morgantown FSS on 122.1R and hear reply over the Grantsville frequency 112.3. RCOs help to extend the range of ATC services.

TRACKING LOST BIRDS

Search Patterns For Locating ELT Transmitters



Of the 1,000 or more aircraft with a functioning Emergency Locator Transmitter on board that are forced down every year, only slightly more than 100 are located by means of the activated ELT. There are a number of reasons for this, ranging from failure or destruction of the ELT or its antenna in the crash, to depletion of battery power before rescue teams arrive. (Some accidents also occur in plain sight of witnesses, and although the ELT may broadcast it is not considered responsible for locating the crash site.)

One out of 10 is not a bad figure, but a higher ratio could reduce the accident death toll.

The original reason for installing ELTs in general aviation aircraft was to shorten the time between the accident and rescue, which ranges from minutes to months—even years in some cases. Many persons have survived severe crashes only to become victims of shock or exposure—or even hunger—during the wait for rescue. Time is always of the essence. Fifty percent of the persons rescued from wrecked aircraft alive are found within the first 12 hours after an accident. Another 25 percent are found alive in the next 12 hours. According to the Air Force Rescue Coordination Center, about 35 out of 100 occupants of downed aircraft survive impact, and 21 of the 35 will be injured in some manner; *but after 24 hours only seven of the 35 will be alive.*

Why does rescue take so long?

For overland crashes, the U.S. Air Force and its auxiliary group, the Civil Air Patrol, are the primary air Search and Rescue (SAR) organization. The U.S. Coast Guard is responsible for locating aircraft down at sea or in the Great Lakes. These organizations normally go into action after being notified by an FAA facility. And certain standard operating procedures, necessarily time-consuming, have to be attended to before notification takes place.

Rescue action can begin fairly quickly if a missing pilot has filed a flight plan. When the aircraft is overdue by half an hour beyond its estimated time of arrival, and there has been no communication from the pilot indicating he was delayed in flight, the destination flight service station begins a telephone search. This includes calling the departure point and airports along the proposed route of flight; also trying to spot the aircraft on the airport or to locate the pilot by phone, in case he forgot to cancel his plan. If this search is negative and the aircraft still unreported, the Air Force Rescue Coordination Center is notified. The air search process may be set in motion about an hour after the aircraft is reported overdue. However, because of the time required to prepare suitable aircraft, brief pilots, and coordinate the air search with overland rescue efforts, an actual search may not begin for several hours or until daylight.

For flights without a flight plan, the waiting time could be much longer. A rental aircraft operator may not report an aircraft overdue for days; for privately owned aircraft the time lapse can be much longer. Family and friends may not become concerned until several days or weeks have passed. By the time a telephone search is conducted and the CAP finally alerted, it could be too late to find survivors. Weather and darkness often delay or hamper the efforts of search pilots.

Note: an ELT is required to operate continuously for 48 hours. After that the drain on the battery could weaken the signal and reduce the range.

What can other pilots do to help shorten the time to rescue? *Nothing*, if search planes or teams have already been launched. Aerial searching can be a difficult and sometimes dangerous business for pilots not trained for the task. Better not to risk adding to the list of missing aircraft.

However, there are situations in which a pilot flying in the area or able to make a flight over familiar territory can give a valuable assist. There are circumstances which suggest that a plane *may* have gone down—someone reported a loud noise or a fire in the hills or saw an aircraft disappear in the woods—but no aircraft is known to be missing. There may be only an hour or two of daylight left—perhaps not enough time to get SAR planes in the area before nightfall once a telephone search for missing aircraft has been conducted.

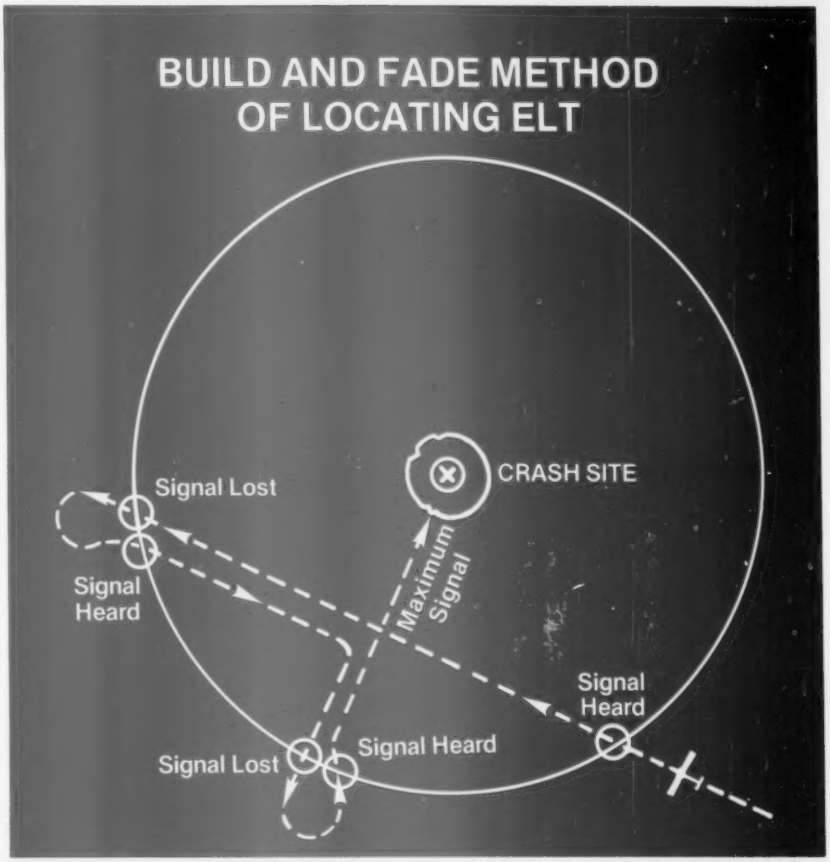
News of a possibly missing aircraft may reach local pilots who are monitoring ATC broadcasts or private air to ground transmissions. In these circumstances they may volunteer to deviate from their present flight heading (or undertake a local flight over familiar territory) in order to check out what could only be a rumor but might also

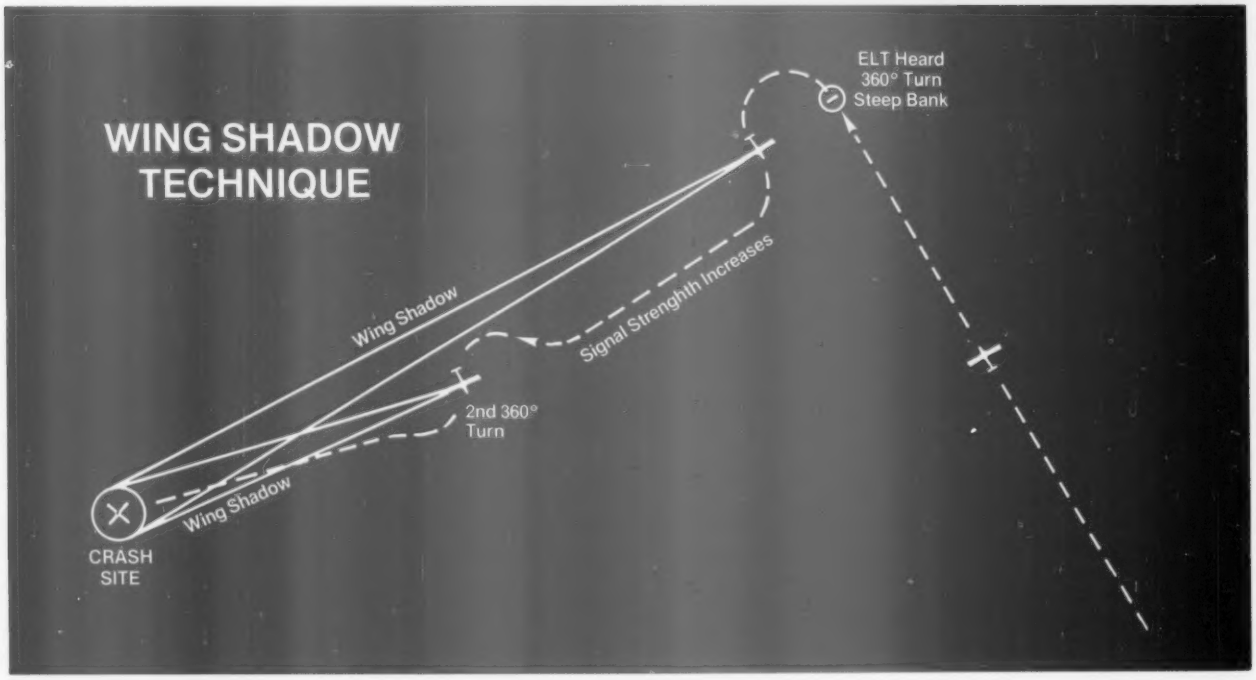
be a serious accident. No special equipment is required other than a functioning VHF receiver with the emergency frequency tuned to 121.5 MHz. The volunteer should, of course, keep in frequent touch with a ground station so that his efforts can be coordinated with other searchers or terminated when appropriate.

If an aircraft has gone down recently in the suspect area being scanned and its ELT is functioning, there is a good chance of its signal being picked up within a range as far as 100 miles. But without some understanding of how to track down an ELT signal efficiently, Good Samaritan pilots could spend important hours burning off fuel in a wasted effort.

The ordinary aircraft has no means of homing in directly on an ELT signal. However, by using an approved search pattern—plus a sectional chart and a good pair of eyes and ears—any pilot may be able to at least narrow down the search area and at best make direct contact with the missing aircraft.

There are two standard search patterns that can be flown by general aviation pilots which provide optimum coverage of an area with minimum loss of time. One search pattern, called "build and fade," operates on the simple principle that as the airborne receiver approaches the transmitting ELT, the signal (an undulating wail) increases in intensity. Conversely, the signal fades as the receiver moves away from it. When a search plane first picks up a signal (already in transmission) the searcher will be flying *toward* the ELT at some angle less than 90° from his heading. He continues on the same heading until the signal begins to fade out. He notes the distance he has flown while the signal was audible, then reverses course and flies back





Plane conducting search in Ohio River Valley after reports of a downed aircraft in the area. Terrain convolutions can cause erratic ELT signals and hit-or-miss homing. Disregard signals heard during ELT test period (first five minutes after the hour) unless they persist.

on the reciprocal heading for half the distance.

Now he makes a 90° turn, either direction, and flies along this heading (or its reciprocal, as indicated by signal build or fade). When he reaches the point of greatest signal intensity, he should be approximately over the transmitter. If he is directly over it, he will hear an abrupt change and somewhat erratic signal. He should identify his position by reference to landmarks and to coordinates on a sectional chart if possible, and report this information to a ground facility at once, whether he immediately spots evidence of aircraft wreckage or not.

The accuracy of this signal tracking procedure may be improved by using your squelch control. When an ELT signal is first heard, set the volume of the radio at your normal listening level and turn up the squelch to the point where the signal fades out. Then back off the squelch until the audio is just barely heard. If you track the signal with the squelch unchanged, it will reduce your required area search. On more sophisticated communications equipment, a "signal strength meter" will indicate the position of maximum gain, and reduce your search flying even more.

The second technique, the "wing shadow" method uses the aircraft wing to point toward the ELT by blocking antenna reception. This method only works for aircraft with metal wings and with the antenna centered on the top or bottom of the fuselage, where reception can be blocked out by the banked wings. The technique is as follows:

When the ELT signal is first heard, initiate a 360° turn to the left and continue until the signal is interrupted. The wing will point in the general direction of the transmitting ELT. (Top-mounted antennas, obviously, will be blocked by the upraised wing and vice versa). Fly in the direction the appropriate wing indicates and repeat the maneuver at 20-mile intervals. When the opposite wing begins to block the signal, you have passed the site. Reverse course, keep narrowing down the area in this manner and look for wreckage. The audible signal, too, will clue you in—increasing as you approach and fading if you fly away from it. When you overfly the ELT report your position.

ELTs transmit omnidirectionally in a roughly circular pattern. They have been heard by airborne receivers over 100 miles away at altitudes above 10,000 feet. On the other hand, the transmission is strictly line-of-sight, and may be blocked or distorted (even enhanced) by rugged terrain features. Also, if the forced landing has damaged the ELT antenna, or if the aircraft impacted in such a manner so that metal surfaces block the antenna, the transmission pattern could be deformed (an obvious reason why crash survivors should know the importance of checking on the condition of their ELT radio and its antenna—which might be repositioned).

In any event, tracking the ELT to its source may not always proceed without inexplicable interruptions or false clues; it requires patience and works best with two persons in the cockpit well supplied with persistance. You can chase an elusive signal for many a mile before hearing the distinctive fluctuation that indicates you are directly on target.

This type of indication may still give several square miles or more of terrain (depending upon your altitude) to inspect before you sight any wreckage, unless there has been a fire or there are visible signals. Downed airplanes have an incredible way of mingling their remains with the countryside, so that the inexperienced observer can pass within several hundred yards of an entire aircraft in the woods without noticing anything. Wherefore the importance of survivors providing auxiliary signaling devices when possible.

By locating even the approximate site of an aircraft crash and reporting the position to air traffic control, you will have provided a possible life-saving service to any survivors. Further efforts on your part to effect the actual rescue could be both undesirable and unnecessary; trained SAR teams should be on their way within minutes. If you have ample fuel you might save them more precious time by continuing to circle the area until help arrives, but don't let sympathy or curiosity draw you down to an unsafe altitude. Certain unanticipated meteorological conditions which may have led to the existing crash could still exist, and trap you as well. (SAR aircraft are lost every year, and they do suffer casualties.)

Once trained personnel are on the scene, follow their instructions, even if it is a disappointingly simple, "Okay, thanks, you can go home now."

You may miss out on the excitement of the actual rescue operation, plus some touching expressions of gratitude, or interesting press notices, but you will gain a lot of respect from other airmen. They will know who was there first. ■

"Angel" Ruth Law

The Lady Who Lived on Nerve

Trudging to work along the shore of Lake Michigan one cold November dawn in 1916, some factory hands noticed a flurry of activity around an airplane in a field not too far off their path. Curiosity got the best of them and they took a closer look. The plane was being propped while the pilot, heavily swaddled in leather and wool, sat perched on a seat in front of the engine.

"Where you bound?" they asked.

"New York City."

"Good luck, young feller. I hope you make it."

In 1916 a nonstop flight from Chicago to New York was still considered an all but impossible dream. Only three weeks earlier Victor Carlstrom, a test pilot for Glenn Curtiss, had made the attempt in a specially built aircraft, but engine problems forced him down en route, after setting a new long distance record of 452 miles. Efforts to link New York with Chicago by nonstop airmail were being encouraged by newspaper and commercial interests in both cities, but up till now the rigors of flying that distance in a completely open aircraft appeared an insurmountable barrier. The "young feller" under the layers of clothing—who happened to be a pretty young woman named Ruth Law—was about to give that barrier a push.

Born in Lynn, MA on March 21, 1887, Ruth Law was the daughter of a Naval officer. An unquenchable thirst for adventure ran in her family. Her brother, Rodman Law, became a famous parachutist and aerial stuntman. Shortly afterward completing finishing school she married Charles Oliver, a New York automobile racer.

Oliver was unusual for that day and age, when most men felt their wives should stay at home and enjoy the easy life of raising a family. He had recognized in Ruth an affinity for flying which he lacked, and he encouraged her to pursue it, going so far as to buy her her own Wright *Flyer* in 1912.

On the day Ruth Law first flew her exuberance was tempered by a chilling experience: she witnessed America's first certificated woman pilot, Harriet Quimby, die in a crash in Boston Harbor. Shaken but undeterred, Ruth soloed within a month and was flying professionally before the year was out.

Flight exhibitions by women were very popular at this time, and a Florida resort quickly hired Ruth as a business attraction. In the summer of 1913 when Florida tourism was slow, Ruth brought her stunt-flying act to fashionable resorts along the entire Atlantic seaboard, revealing a flair for the spectacular and dramatic—like flying at night (the first woman to do so) with her airplane outlined with electric lights. She flew constantly, hopping from one resort to another, taking up passengers, as well as exciting audiences with her aerial feats.

When the thrills of stunt flying wore thin, Ruth decided to become "serious" about aviation by setting new performance records. She began this new "career" in May 1916 at the Military Aircraft Tournament at Sheepshead Bay, Long Island where she came in second in an altitude competition by climbing to 11,200 feet, a record for a woman.

Next she set her sights on the long distance record. Newspaper and commercial sponsors for a Chicago-New York flight were easy to come by. But for this 800 mile flight, Ruth wanted a heavier plane with longer range fuel tanks. But all the manufacturers she contacted told her a woman simply could not handle a larger plane and did not have the stamina for such a trip. Undaunted and determined to prove them wrong, she decided a few modifications to her *Pusher* would have to do. The Curtiss factory installed a 37 gallon auxilliary tank and devised a flap-like overhang on the upper wings to compensate for the additional weight. Now, the plane would hold 53 gallons instead of its usual 16. All she needed—to arrive nonstop—was a 56 mph tailwind.

By mid-November 1916 Ruth and her airplane were ready, except for a minor hitch. Her Geodetic Survey fold-up maps would be useless in flight because she could not take both hands off the controls to handle them. Ruth cut the maps into strips and pasted them on cloth which was attached to two rollers inside a wooden box. Now with the box on her lap, she could fly and use her maps with only one hand without the danger of losing control.

Her flight path took her directly to Cleveland and then along Lake Erie to the northern tip of Pennsylvania. She varied her altitude from 6,000 feet to 2,000 feet, avoiding fog and clouds and trying to keep from turning completely numb in the subfreezing weather. In time her fingers stiffened so that she could no longer use her map scroll, but she referred to heading and milage data penned on her cuffs. She had made up her mind to stay with the plane as long as the prop turned over.

Some 5¾ hours and 590 miles after leaving Chicago Ruth ran out of gas and landed at Hornell, NY. she had broken Carlstrom's nonstop long distance record by 138 miles. She remained on the ground overnight and flew on to New York City early the next morning, once again enduring intense cold and navigating her way skillfully over valleys and mountain ridges overhung with fog. When she landed, to be greeted by a cheering crowd, she was so stiff she had to be lifted from her seat, and it was several minutes before she could pull off her gloves and her face mask. but her face was all smiles as she said, "It was a vacation. I've had lots of fun."

In January of 1917 the *New York World* hired Ruth to go to Europe and report on the various aircraft being used in the war. [illegible] U.S. entered World War I, she hurried home and offered her services to the military. She was put in uniform but only for the noncombatant role of war bond and Red Cross promote. Record-setting was still in her mind, for during a flight to promote Liberty Bonds, she set a new woman's altitude record of 14,700 feet.

Life after the war seemed to wind down for Ruth Law. She tried exhibition flying in the Far East and airmail flights in the Philippines but returned to her first love, stunt flying in the United States. Her husband, who had always been her staunchest supporter, sensed that she wanted to quit but was afraid to live without the daily stimulus of danger and excitement. At his insistence Ruth stopped flying in 1922, but for the next two years was very depressed and suffered a nervous breakdown in 1924.

She recovered in time, and she never flew again. Ruth and her husband settled in California, and she occupied herself making occasional speeches, playing golf, tending her garden, and avidly following the exploits of the astronauts in space. She died December 1, 1970, a little over a year after man walked on the moon. ■

BIG BALLOONER. Bruce Comstock, 37, of Ann Arbor MI on a victory flight after winning World Hot Air Balloon Championships June 20–27 in Battle Creek, MI. The four-time U.S. champion outdid 82 competitors by guiding his English *Cameron* balloon, the *Jumping Jehosaphat*, through eight different precision approach tasks.

Southern Region Will Test "HIWAS", Continuous Weather Updating

Continuous 24 hour updating of significant weather changes will be offered this summer to pilots flying in the Miami and Jacksonville ARTCC areas. Selected VOR's in Florida, Alabama, Georgia and South Carolina will broadcast a "Hazardous Inflight Advisory Service" (HIWAS), designed to help prevent weather-related accidents or difficulties.

Standard procedures have required air traffic specialists to make live broadcasts disseminating SIGMET's, AIRMET's and Urgent Pilot Reports as soon as possible. However, the heavy workload carried by the Air Traffic Service during deteriorating weather conditions has often delayed these broadcasts, despite their urgency.

The Hazardous Inflight Weather Advisory Service will give high priority to significant weather changes and require FSS specialists to update the HIWAS broadcasts within six minutes of receiving important new weather data. Controllers will refer pilots of controlled traffic to this advisory service instead of taking up transmission time to advise them directly.

Pilot comment to ATC on HIWAS during the evaluation period (approximately Aug. 1 through Sept. 30, 1981) is invited. Further information will be in the NOTAMs section (Part 2) of the Airman's Information Manual. Depending upon user reaction, HIWAS may be extended nationally.

VOR Locations:

Albany, GA	Miami/Pahokee, FL
Dothan, AL	Orlando, FL
Florence, SC	Savannah/Allendale, GA
Fort Myers, FL	St. Petersburg, FL
Jacksonville, FL	Tallahassee, FL

Key West, FL (1100 to 0300 GMT only)

Hang Glider Notes

Fatalities from hang gliding accidents numbered 51 worldwide in 1980, according to figures from the United States Hang Gliding Association. Twenty-six fatalities were confirmed in the U.S. and 25 estimated elsewhere in the world. The death toll in hang gliders has been as high as 43 in the United States (1976).

Accident causes include various pilot errors, problems with rotor cloud turbulence, and collisions with other gliders.

To remain free of FAA regulation, hang gliders must be able to take off and land solely by the use of the operator's legs without assistance from other persons or some type of landing gear. If the operator cannot prove this, he must then meet aircraft and airman certification and maintenance requirements of FAR Parts 21, 45, 61, and 91 before he can operate the vehicle.

Temporary Airman Certificates

Pilots who have not received their permanent airman certificates within the 120-day period on their temporary certificate may no longer extend the time 60 days by penciling in 180. As of June 30, 1981 Temporary Airman Certificates are good for 120 days only.

If the permanent certificate has not been received within a week to 10 days of the expiration date on the temporary, the pilot should contact his local general aviation district office. They will determine why the permanent certificate has been delayed and issue a new temporary.

Surveying General Aviation

This summer general aviation pilots will be asked to volunteer information on their flight activity, use of FAA facilities, fuel consumption, etc. Every third year FAA surveys general aviation pilots and traffic at 300 airports across the country. Civil Air Patrol airmen will interview pilots and count traffic for the agency during July and August.

On Board Collision Avoidance Devices for General Aviation

A new on-board collision avoidance warning device will be available to general aviation, as soon as equipment for the recently selected "Threat Alert and Collision Avoidance System" (TCAS) comes on the market. TCAS is based on signals transmitted by aircraft transponders and does not depend upon warning advisories issued by ground facilities.

In its simplest form (estimated cost $2,500) TCAS-I consists of a special receiver, a radar transponder compatible with existing air traffic control ground facilities, and a panel signal light or horn. When transponders on nearby aircraft are activated by ground radar interrogation, the replies are picked up by the receiver of any TCAS-I equipped aircraft and warning signals are given. For an additional cost the TCAS-I unit will also be able to display the clock position bearing of intruding aircraft.

TCAS-II will include an airborne interrogator capable of locating transponder-equipped aircraft on a conflicting course and establishing intruder bearing, range, and altitude. Conflict resolution advisories will be computed and coordinated with other TCAS-II aircraft as appropriate, over an air-to-air data link.

TCAS-II will be able to function effectively in heavily trafficked airspace because it employs an advanced type of directional antenna. The more sophisticated TCAS-II, designed primarily for air carriers, is expected to cost between $45,000 and $50,000.

Experimental systems are now being tested, and FAA Administrator J. Lynn Helms expects industry to have production equipment available in three or four years.

LATEST AIRMAN PUBLICATIONS

Airport Design

Operators of small airports that service business jets and other large general aviation aircraft may be interested in Advisory Circular 150/5300–6A, "Airport Design Standards—General Aviation Airports." The circular, which recommends design and dimensions for taxiways, runways, and parking areas that will safely accommodate large aircraft, is free from DOT Publications Section, M-443.1, Washington, D.C. 20590.

Maintenance Agencies, Schools

The latest directories of all FAA-certificated repair stations and maintenance technician schools are now available. Advisory Circular 140–7B, "FAA Certificated Maintenance Agencies Directory," lists repair stations alphabetically by state and indicates what kind of repairs each is certificated for. The schools and type of training they offer are similarly listed in AC 147-2V, "Directory of FAA Certificated Aviation Maintenance Technician Schools." Both are free from DOT Publications Section, address above.

Instrument Handbook Update

An updated version of the "Instrument Flying Handbook" (AC 61-27C) is now available. Send check or money order for $7.50 to Superintendent of Documents, Government Printing Office, Washington, DC 20402.

• Noisy Propellers

I wonder if you might tell me why general aviation reciprocating engines can't be muffled more efficiently in order to reduce the noise levels currently produced by them.

Ernest Kovacs
Rosly, NY

General aviation aircraft reciprocating engines are already muffled to reduce the noise from the engine exhaust system. Normally, the predominant source of noise is from the motion of the propeller through the air. However, this source of noise can be decreased by reducing the propeller tip speed (decreasing RPM) and/or modifying the blade design. Aircraft and propeller manufacturers are working on these solutions to the problem of noise.

• Info Without Propaganda

The one problem with your magazine is the inconspicuous renewal notices that slip by me sometimes and then I go months without a copy or a reason why. I suppose being a government publication you haven't any choice about that.

Otherwise you do a fine job of not getting too bureaucratic or governmental in your approach to flying. Yet, it is obviously an official FAA publication written for people who want information without propaganda or Big Brother advice. Your articles have quality comparable to the best I've read in other aviation magazines (I subscribe to nine), and I've recopied many of them for my flight students. I do realize that *FAA General Aviation News* is put out at minimal cost, and I consider that bargain part of the debt I owe the FAA in general for the extraordinary job they do. The only way I can see to pay that off is to put an extra effort into flying more safely, teaching my students well and doing my best as an ad hoc public relations person for FAA.

Thank you for your fine magazine.

S. O. Barber
Fullerton, CA

• When is a B–26 Not a B–26?

Page 15 of the September/October 1980 issue shows an aircraft which was identified as a World War II B–26. As a former 9th Air Force B–26 pilot, I have to differ. The Martin Company built the *Martin Marauder*, B–26, which I flew. The aircraft pictured is one built by the Douglas Company and, at that time, was designated the A–26 *Invader*. After World War II, the A-26 was re-designated the B–26.

Conrad C. Obert
Ephrata, WA

The Air Force had identified the photograph as a Martin B–26. If you flew one, no doubt you know the difference.

• Lighter Than Air Lights

Does a helium or hot-air balloon have to display position or navigation lights to fly at night?

G. S. Livack
Arlington, VA

Manned free balloons are required to display position lights between the hours of sunset and sunrise. The lights consist of one steady white light and one flashing red light, with the white light not more than 20 feet below the basket and the red light between seven and 10 feet below the white one.

• Glide Slope Enlightening

I noted a question in the "Instrument Corner" in the January/February 1981 issue that I felt wasn't answered as fully as it might have been. The writer asked the meaning of the lightning slash on instrument approach plates. Your reply neglected to mention that the lightning slash is also the standard symbol for the Glide Slope Intercept, which may or may not be at the outer marker.

Wallace J. Balla
Greenwich, CT

Quite true.

• Aviation Anagrams

In the Weather Watchers article, Dulles International Airport is referred to as DUL. Wrong! It's DIA. One local wag would offer the following explanation: the reason the FAA makes mistakes like that is to test the readers.

Charles Middlebrook
Dahlgren, VA

Or to prove we are human, not just a big computer. By the way, the three-letter identifier for Dulles is not DUL—nor is it DIA. It happens to be IAD. Please, do not ask why.

• "E" Not "3"

Your reply concerning high performance aircraft in the May/June 1981 "Forum" refers to FAR 61.31(e) and 61.31(3). Is the latter a misprint?

J. L. Boss, II
Indianpolis, IN

It is. The pertinent FAR is 61.31(e).

• Two Kinds of Students

I recently took an FAR test at my school and incorrectly answered a question that stated: "Can a student pilot log PIC time if he is the sole manipulator of the controls?"

I showed my instructor your September/October 1980 issue ("Forum" item "Student-in-Command") which said that a student can log PIC time. My instructor says I'm still wrong. Help! Who is right?

Terence P. McCullough
Dayton Beach, FL

Both. A student (who does not have a private or better certificate) cannot log dual time as PIC, only as dual even if he were the sole manipulator of the controls. At times when the student is sole occupant, he may log the time as PIC and apply it to requirements for a subsequent certificate.

• Third Class CFI?

Can a CFI with only a third class medical certificate give non-profit flight instruction to friends and family?

Glen Hestenes
Tempe, AZ

Affirmative.

• A and P Certificates Abroad

An item in the May/June 1981 "News" stated that foreign mechanics desiring U.S. certification must show the FAA they will be employed full-time by a company that operates U.S.-registered aircraft. Does this mean those who already work in the United States?

Paul Ramirez
Miami, FL

Negative. These requirements apply only to foreign mechanics and airmen who apply for certification outside the United States.

FAA GENERAL AVIATION NEWS welcomes comments from our readers. No anonymous letters will be used, but names will be withheld on request. Address: FAA GENERAL AVIATION NEWS, AFO-807, Washington, D.C. 20591.

• Ground Error

Your article "Mis-anticipation" (May/June 1981) pointed out that errors are made not only by pilots but also by the usually infallible air traffic controllers. When I attended Instrument School in the Navy, we were taught to "always assume the guy on the ground is trying to kill you"—meaning to always know where you are and what lies ahead. Remembering that has saved my life several times.

Thanks for a great magazine. It's truly refreshing to see a federal agency providing worthwhile information and service.

L. R. Batterman
Salt Lake City, UT

• San Diego/TCA I or II?

In a reprint of one of your magazine articles ("UFO vs VFR" from the July/August 1980 issue) you stated that San Diego was a Group II TCA but list it among the Group I's in your boxed summary. Which is correct?

Sam Prince
Dallas, TX

San Diego is a Group II TCA, as stated in the reprint. The airport was mis-located in the boxed summary. Thank you for pointing out the error. Group II TCAs are open to all pilots who can maintain radio contact with air traffic control and are equipped with a transponder (not necessarily altitude encoding), and a VOR or TACAN receiver.

• A Lot of Hot Air?

Would you please explain the photo on p. 14 of the September/October 1980 issue? The caption refers to hot-air, non-rigid blimps. I can't imagine a hot-air blimp. It sounds like hot air to me.

Roger W. Griswold II
Old Lyme, CT

The photo was of Anhauser-Busch's advertising balloon which is a hot-air balloon shaped like a blimp. The "blimp" is called non-rigid because there is no supporting superstructure inside the gas-bag as in a conventional airship.

• How To Be An Observer

I was reading the November/December 1980 issue of *General Aviation News* and enjoyed the article on weather observers. I am interested in obtaining information on how to become an offical observer. Does the FAA handle it, or the National Weather Service?

Charles Hodgins, Jr.
Fallston, MD

Inquiries on how to become a National Weather Service observer should be directed to one of the NWS' six regional offices. In your case, contact National Weather Service, National Oceanic and Atmospheric Administration, Eastern Region Headquarters, 585 Stewart Ave., Garden City, NY 11430.

INSTRUMENT CORNER

• Glide Slope Out Approach

If the glide slope is inoperative on an ILS approach and you are making a localizer approach instead, should you fly the glide slope intercept altitude or the final approach fix altitude from the procedure turn?

Lamar Miller
Honolulu, HI

If the glide slope is found to be inoperative disregard the glide slope intercept altitude and fly at or above the final approach fix altitude.

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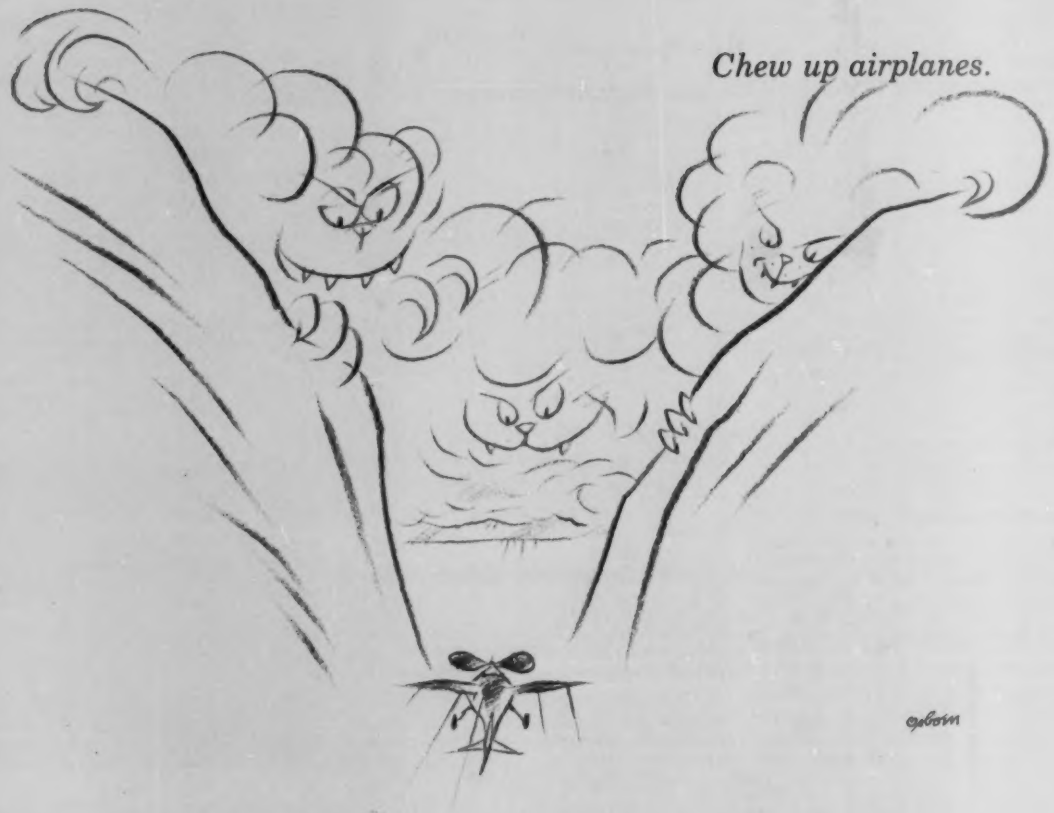
Chew up airplanes.